


AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (canceled)

 2. (currently amended) ~~The data communication apparatus according to Claim 1, A~~

data communication apparatus for performing data communication with a partner apparatus through a communication line, said data communication apparatus comprising:

job execution means for receiving data from the partner apparatus, for executing a

job; and

job management means for managing an execution status of said job;

wherein:

when a job whose execution was interrupted by a given event is to be resumed,

said job management means instructs said job execution means to resume the job, while

presenting an execution status at a time when the execution of the job was interrupted; and

said job execution means refers to the execution status at the time when the execution of the job was interrupted, for receiving only data required for executing a non-processed part of the job, said execution status being presented by said job management means, relating to the job about which the instruction of resuming has been given,

wherein:

said data communication apparatus performs communication with the partner apparatus through a serial interface based on IEEE (The Institute of Electrical and Electronics Engineers, Inc.) 1394 and in accordance with a data transfer protocol based on SBP-2 (Serial Bus Protocol 2);

AL said job execution means follows ORB (Operation Request Block), which is received from the partner apparatus as a job and contains data indicating a storage area of data to be transferred from said partner apparatus to said data communication apparatus, in order to generate and send Read Block Request that indicates a read start address and a predetermined read data quantity to the partner apparatus, and receives, in response, Read Block Response that contains read data, so that the job execution means sequentially reads the data by the predetermined data quantity from any address, so as to receive the data in the storage area indicated by said ORB; and

when said job management means instructs said job execution means to resume execution of the ORB whose execution was interrupted by a given event, then, the job execution means refers to the execution status presented from said job management means relating to the time when the execution of said ORB was interrupted, in order to generate Read Block Requests required for receiving data that has not been obtained yet, excluding data that has already obtained, out of the data in the storage area indicated in said ORB, to send said Read Block Requests to the partner apparatus, and to receive Read Block Responses as responses to said Read Block Requests.

3. (original) The data communication apparatus according to Claim 2, wherein:

said data communication apparatus further comprises bus reset detection means for detecting a bus reset defined by IEEE1394, as said given event;

said job management means comprises:


means for managing the execution status of said ORB by knowing ORB under execution by said job execution means and at least one of: a number of sending Read Block Requests generated to execute said ORB, a number of receiving Read Block Responses received from the partner apparatus as responses to said Read Block Requests, and a total byte number of read data contained in said Read Block Responses; and

instruction means for giving instruction to said job execution means to resume the execution of said ORB when a reconnection process defined by SBP-2 is requested from the partner apparatus that sent the ORB whose execution was interrupted by a bus reset detected by said bus reset detection means and, thereafter, a same ORB as said interrupted ORB is sent again, said instruction being given by presenting at least one of: a number of sending Read Block Requests, a number of receiving Read Block Requests, and a total byte number of received data contained in said Read Block Responses, at the time when the execution of said ORB was interrupted; and

when said job management means gives instruction of resuming said ORB, said job execution means generates Read Block Requests required for receiving the data that has not been obtained yet, excluding the data that has already obtained, out of the data in the storage area indicated in said ORB, specifying said data that has not been obtained yet by at least one of: the

number of sending Read Block Requests, the number of receiving Read Block Responses, and the total byte number of the received data contained in said Read Block Responses, at the time when the execution of said ORB was interrupted, those numbers being presented by said job management means; and said job execution means sends the generated Read Block Requests to the partner apparatus, and receives Read Block Responses in response.

4. (original) The data communication apparatus according to Claim 3, wherein:

 said data communication apparatus further comprises a buffer for storing data contained in Read Block Response corresponding to Read Block Request for executing the ORB received by said job execution means; and

data stored in said buffer is not cleared even when a bus reset is detected by said bus reset detection means.

5. (original) The data communication apparatus according to Claim 4, further comprising:

reset means that clears the data stored in said buffer, when a request of said reconnection process is not received within a predetermined period from the partner apparatus that sent the ORB whose execution was interrupted by a bus reset, after said bus reset is detected by said bus reset detection means.

6. (original) The data communication apparatus according to Claim 5, wherein:

a size of the data contained in Read Block Response corresponding to Read Block Request for executing the ORB received by said job execution means is smaller than a size of said buffer.

7. (original) The data communication apparatus according to Claim 5, wherein:

On said job execution means sends the partner apparatus Read Block Request generated for executing said ORB after a free capacity of said buffer becomes larger than the read data quantity indicated in said Read Block Request.

8. (original) A printer provided with the data communication apparatus according to Claim 5, wherein:

said buffer sends the stored data to a printer main part by the byte.

9. (new) A data communication apparatus for performing data communication with a partner apparatus through a communication line, said data communication apparatus comprising:

a job execution part that receives data from the partner apparatus for executing a job; and

a job management part that manages an execution status of said job;

wherein:

when a job whose execution was interrupted by a given event is to be resumed, said job management part instructs said job execution part to resume the job while referring to an execution status at a time when the execution of the job was interrupted,

said job execution part refers to the execution status at the time when the execution of the job was interrupted in order to receive data required for executing a non-processed part of the job,

On said data communication apparatus performs communication with the partner apparatus through a serial interface based on IEEE 1394 and in accordance with a data transfer protocol based on SBP-2,

said job execution part follows an Operation Request Block, which is received from the partner apparatus as a job, and contains data indicating a storage area of data to be transferred from said partner apparatus to said data communication apparatus, in order to generate and send a Read Block Request that indicates a read start address and a predetermined read data quantity to the partner apparatus,

said job execution part receives, in response, a Read Block Response that contains read data, so that the job execution part sequentially reads the data by the predetermined data quantity from any address, so as to receive the data in the storage area indicated by said Operation Request Block, and

when said job management part instructs said job execution part to resume execution of the Operation Request Block, whose execution was interrupted by a given event, the job execution part refers to the execution status presented from said job management part which

relates to the time when the execution of said Operation Request Block was interrupted, in order to generate Read Block Requests required for receiving data that has not yet been obtained, and to send said Read Block Requests to the partner apparatus,

the partner apparatus sending Read Block Responses to said Read Block Requests.

10. (new) The data communication apparatus according to claim 9, wherein said given event is a bus reset.
